```
L98  ANSWER 4 OF 4  HCAPLUS  COPYRIGHT 2005 ACS on STN
TI   Structure and properties of block copolymers of polyblock type
SO   Plasticheskie Massy (1981), (5), 29-32
     CODEN: PLMSAI; ISSN: 0554-2901
AU   Rogovina, L. Z.; Valetskii, P. M.; Slonimskii, G. L.
AN   1981:408204  HCAPLUS
DN   95:8204


=> log y
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      96.63      96.84

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)            SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                      -0.73      -0.73

STN INTERNATIONAL LOGOFF AT 15:35:25 ON 20 APR 2005

  * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:38:14 ON 21 APR 2005

=> fil .bec
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.21       0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
       ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 11:38:24 ON 21 APR 2005
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s polyethylene glycol or peg
FILE 'MEDLINE'
         33692 POLYETHYLENE
         22016 GLYCOL
          9086 POLYETHYLENE GLYCOL
                 (POLYETHYLENE(W)GLYCOL)
          8964 PEG
L1       14758 POLYETHYLENE GLYCOL OR PEG

FILE 'SCISEARCH'
         49789 POLYETHYLENE
         36174 GLYCOL
         11455 POLYETHYLENE GLYCOL
                 (POLYETHYLENE(W)GLYCOL)
         14973 PEG
L2       21749 POLYETHYLENE GLYCOL OR PEG

FILE 'LIFESCI'
          4480 "POLYETHYLENE"
          5906 "GLYCOL"
          3000 POLYETHYLENE GLYCOL
                 ("POLYETHYLENE"(W)"GLYCOL")
          2228 PEG
L3        4068 POLYETHYLENE GLYCOL OR PEG

FILE 'BIOTECHDS'
          3945 POLYETHYLENE
          4515 GLYCOL
          3036 POLYETHYLENE GLYCOL
```

```
                (POLYETHYLENE(W)GLYCOL)
          6044 PEG
L4        7723 POLYETHYLENE GLYCOL OR PEG

FILE 'BIOSIS'
         23941 POLYETHYLENE
         32583 GLYCOL
         14540 POLYETHYLENE GLYCOL
                (POLYETHYLENE(W)GLYCOL)
         11866 PEG
L5       20635 POLYETHYLENE GLYCOL OR PEG

FILE 'EMBASE'
         18670 "POLYETHYLENE"
         28246 "GLYCOL"
          8533 POLYETHYLENE GLYCOL
                ("POLYETHYLENE"(W)"GLYCOL")
          8915 PEG
L6       14197 POLYETHYLENE GLYCOL OR PEG

FILE 'HCAPLUS'
        323084 POLYETHYLENE
        328847 GLYCOL
         90651 POLYETHYLENE GLYCOL
                (POLYETHYLENE(W)GLYCOL)
         31718 PEG
L7      108474 POLYETHYLENE GLYCOL OR PEG

FILE 'NTIS'
          5591 POLYETHYLENE
          1894 GLYCOL
           253 POLYETHYLENE GLYCOL
                (POLYETHYLENE(W)GLYCOL)
           321 PEG
L8         499 POLYETHYLENE GLYCOL OR PEG

FILE 'ESBIOBASE'
          4796 POLYETHYLENE
          6391 GLYCOL
          3005 POLYETHYLENE GLYCOL
                (POLYETHYLENE(W)GLYCOL)
          3672 PEG
L9        5248 POLYETHYLENE GLYCOL OR PEG

FILE 'BIOTECHNO'
          4665 POLYETHYLENE
          7260 GLYCOL
          3167 POLYETHYLENE GLYCOL
                (POLYETHYLENE(W)GLYCOL)
          2816 PEG
L10       4868 POLYETHYLENE GLYCOL OR PEG

FILE 'WPIDS'
        197943 POLYETHYLENE
        109036 GLYCOL
         26705 POLYETHYLENE GLYCOL
                (POLYETHYLENE(W)GLYCOL)
         15802 PEG
L11      39735 POLYETHYLENE GLYCOL OR PEG

TOTAL FOR ALL FILES
L12     241954 POLYETHYLENE GLYCOL OR PEG

=> s heterobifunct?
```

```
FILE 'MEDLINE'
L13         533 HETEROBIFUNCT?

FILE 'SCISEARCH'
L14         539 HETEROBIFUNCT?

FILE 'LIFESCI'
L15         205 HETEROBIFUNCT?

FILE 'BIOTECHDS'
L16          86 HETEROBIFUNCT?

FILE 'BIOSIS'
L17         603 HETEROBIFUNCT?

FILE 'EMBASE'
L18         432 HETEROBIFUNCT?

FILE 'HCAPLUS'
L19         987 HETEROBIFUNCT?

FILE 'NTIS'
L20           4 HETEROBIFUNCT?

FILE 'ESBIOBASE'
L21         162 HETEROBIFUNCT?

FILE 'BIOTECHNO'
L22         290 HETEROBIFUNCT?

FILE 'WPIDS'
L23         174 HETEROBIFUNCT?

TOTAL FOR ALL FILES
L24        4015 HETEROBIFUNCT?

=> s l12 and l24
FILE 'MEDLINE'
L25          24 L1 AND L13

FILE 'SCISEARCH'
L26          45 L2 AND L14

FILE 'LIFESCI'
L27           3 L3 AND L15

FILE 'BIOTECHDS'
L28           5 L4 AND L16

FILE 'BIOSIS'
L29          23 L5 AND L17

FILE 'EMBASE'
L30          18 L6 AND L18

FILE 'HCAPLUS'
L31          73 L7 AND L19

FILE 'NTIS'
L32           0 L8 AND L20

FILE 'ESBIOBASE'
L33          14 L9 AND L21
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FILE 'BIOTECHNO'
L34          13 L10 AND L22

FILE 'WPIDS'
L35          24 L11 AND L23

TOTAL FOR ALL FILES
L36         242 L12 AND L24

=> s l36 not 1999-2005/py
FILE 'MEDLINE'
       3329100 1999-2005/PY
L37          10 L25 NOT 1999-2005/PY

FILE 'SCISEARCH'
       6385167 1999-2005/PY
L38          18 L26 NOT 1999-2005/PY

FILE 'LIFESCI'
        647543 1999-2005/PY
L39           0 L27 NOT 1999-2005/PY

FILE 'BIOTECHDS'
        126993 1999-2005/PY
L40           2 L28 NOT 1999-2005/PY

FILE 'BIOSIS'
       3285337 1999-2005/PY
L41          10 L29 NOT 1999-2005/PY

FILE 'EMBASE'
       2914482 1999-2005/PY
L42           3 L30 NOT 1999-2005/PY

FILE 'HCAPLUS'
       6181508 1999-2005/PY
L43          28 L31 NOT 1999-2005/PY

FILE 'NTIS'
        108997 1999-2005/PY
L44           0 L32 NOT 1999-2005/PY

FILE 'ESBIOBASE'
       1817014 1999-2005/PY
L45           6 L33 NOT 1999-2005/PY

FILE 'BIOTECHNO'
        611346 1999-2005/PY
L46           4 L34 NOT 1999-2005/PY

FILE 'WPIDS'
       5325720 1999-2005/PY
L47           0 L35 NOT 1999-2005/PY

TOTAL FOR ALL FILES
L48          81 L36 NOT 1999-2005/PY

=> dup rem l48
PROCESSING COMPLETED FOR L48
L49          32 DUP REM L48 (49 DUPLICATES REMOVED)

=> d tot

L49  ANSWER 1 OF 32     MEDLINE on STN                  DUPLICATE 1
```

TI Convenient polymer-supported synthetic route to **heterobifunctional** polyethylene glycols.
SO Bioconjugate chemistry, (1998 Nov-Dec) 9 (6) 842-6.
Journal code: 9010319. ISSN: 1043-1802.
AU Bettinger T; Remy J S; Erbacher P; Behr J P
AN 1999034528 MEDLINE

L49 ANSWER 2 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 2
TI Polymeric micelles as drug delivery systems: a reactive polymeric micelle carrying aldehyde groups
SO POLYMERS FOR ADVANCED TECHNOLOGIES, (OCT-NOV 1998) Vol. 9, No. 10-11, pp. 768-776.
Publisher: JOHN WILEY & SONS LTD, BAFFINS LANE CHICHESTER, W SUSSEX PO19 1UD, ENGLAND.
ISSN: 1042-7147.
AU Scholz C (Reprint); Iijima M; Nagasaki Y; Kataoka K
AN 1998:846946 SCISEARCH

L49 ANSWER 3 OF 32 MEDLINE on STN DUPLICATE 3
TI Camptothecin-20-**PEG** ester transport forms: the effect of spacer groups on antitumor activity.
SO Bioorganic & medicinal chemistry, (1998 May) 6 (5) 551-62.
Journal code: 9413298. ISSN: 0968-0896.
AU Greenwald R B; Pendri A; Conover C D; Lee C; Choe Y H; Gilbert C; Martinez A; Xia J; Wu D; Hsue M
AN 1998293113 MEDLINE

L49 ANSWER 4 OF 32 MEDLINE on STN DUPLICATE 4
TI Synthesis of **heterobifunctional** poly(ethylene glycol) with a reducing monosaccharide residue at one end.
SO Bioconjugate chemistry, (1998 Mar-Apr) 9 (2) 300-3.
Journal code: 9010319. ISSN: 1043-1802.
AU Nakamura T; Nagasaki Y; Kataoka K
AN 1998208328 MEDLINE

L49 ANSWER 5 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 5
TI Carboxymethyl cellulose as a new **heterobifunctional** ligand carrier for affinity precipitation of proteins
SO BIOSEPARATION, (30 JUL 1998) Vol. 7, No. 4, pp. 195-205.
Publisher: KLUWER ACADEMIC PUBL, SPUIBOULEVARD 50, PO BOX 17, 3300 AA DORDRECHT, NETHERLANDS.
ISSN: 0923-179X.
AU Lali A (Reprint); Balan S; John R; DSouza F
AN 1999:495549 SCISEARCH

L49 ANSWER 6 OF 32 MEDLINE on STN DUPLICATE 6
TI Basic studies on **heterobifunctional** biotin-**PEG** conjugates with a 3-(4-pyridyldithio)propionyl marker on the second terminus.
SO Bioconjugate chemistry, (1997 Jul-Aug) 8 (4) 545-51.
Journal code: 9010319. ISSN: 1043-1802.
AU Kaiser K; Marek M; Haselgrubler T; Schindler H; Gruber H J
AN 97403085 MEDLINE

L49 ANSWER 7 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Preparation and characterization of oligosaccharide- and oligopeptide-bearing stealth liposomes
SO Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), POLY-229 Publisher: American Chemical Society, Washington, D. C.
CODEN: 64AOAA
AU Gittelman, Joshua; Harding, Jennifer; Mullah, Nasreen; Guo, Lake; DeFrees, Shawn; Zalipsky, Samuel

AN 1997:164154 HCAPLUS

L49 ANSWER 8 OF 32 MEDLINE on STN DUPLICATE 7
TI Poly(ethylene glycol)-grafted liposomes with oligopeptide or oligosaccharide ligands appended to the termini of the polymer chains.
SO Bioconjugate chemistry, (1997 Mar-Apr) 8 (2) 111-8.
Journal code: 9010319. ISSN: 1043-1802.
AU Zalipsky S; Mullah N; Harding J A; Gittelman J; Guo L; DeFrees S A
AN 97249464 MEDLINE

L49 ANSWER 9 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 8
TI Poly(ethylene glycol)-based micelles for drug delivery
SO ACS SYMPOSIUM SERIES, (FEB 1997) Vol. 680, pp. 99-116.
Publisher: AMER CHEMICAL SOC, 1155 SIXTEENTH ST NW, WASHINGTON, DC 20036.
ISSN: 0097-6156.
AU La S B (Reprint); Nagasaki Y; Kataoka K
AN 1998:12665 SCISEARCH

L49 ANSWER 10 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Recent developments in ligand-bearing polymer-grafted liposomes
SO Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), POLY-056 Publisher: American Chemical Society, Washington, D. C.
CODEN: 64AOAA
AU Zalipsky, Samuel
AN 1997:163983 HCAPLUS

L49 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis and characterization of bioaffinity interactive **heterobifunctional** polyethylene glycols (protein immobilization)
SO (1996) 307 pp. Avail.: UMI, Order No. DA9720585
From: Diss. Abstr. Int., B 1997, 58(2), 836
AU Ehteshami, Gholam Reza
AN 1997:512917 HCAPLUS
DN 127:217369

L49 ANSWER 12 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI novel reactive polymeric micelles for an intelligent drug carrier
SO Proceedings of the International Symposium on Controlled Release of Bioactive Materials (1996), 23rd, 779-780
CODEN: PCRMEY; ISSN: 1022-0178
AU Nagasaki, Yukio; Scholz, Carmen; Iijima, Michihiro; Kato, Masao; Kataoka, Kazunori
AN 1996:522484 HCAPLUS
DN 125:230429

L49 ANSWER 13 OF 32 MEDLINE on STN DUPLICATE 9
TI Interactions and applications of soluble **heterobifunctional** affinity chelating polymers in immobilized metal affinity chromatography.
SO Journal of molecular recognition : JMR, (1996 Sep-Dec) 9 (5-6) 733-7.
Journal code: 9004580. ISSN: 0952-3499.
AU Ehteshami G; Porath J; Guzman R
AN 97317982 MEDLINE

L49 ANSWER 14 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI **Heterobifunctional** poly(ethylene glycol) with a reducing monosaccharide residue at one end for drug targeting
SO Proceedings of the International Symposium on Controlled Release of Bioactive Materials (1996), 23rd, 625-626
CODEN: PCRMEY; ISSN: 1022-0178
AU Nakamura, T.; Nagasaki, Y.; Kato, M.; Kataoka, K.
AN 1996:522309 HCAPLUS
DN 125:230596

L49 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis of **heterobifunctional** poly(ethylene glycol) with a reducing monosaccharide residue at one end for drug delivery
SO Advanced Biomaterials in Biomedical Engineering and Drug Delivery Systems, [Iketani Conference on Biomedical Polymers], 5th, Kagoshima, Japan, Apr. 18-22, 1995 (1996), Meeting Date 1995, 323-324. Editor(s): Ogata, Naoya. Publisher: Springer, Tokyo, Japan.
CODEN: 63CXA6
AU Nakamura, Teruo; Nagasaki, Yukio; Kato, Masao; Kataoka, Kazunori
AN 1996:489030 HCAPLUS
DN 125:204201

L49 ANSWER 16 OF 32 MEDLINE on STN DUPLICATE 10
TI Preparation and characterization of conjugates of (modified) human serum albumin and liposomes: drug carriers with an intrinsic anti-HIV activity.
SO Biochimica et biophysica acta, (1996 Jan 31) 1278 (2) 183-90.
Journal code: 0217513. ISSN: 0006-3002.
AU Kamps J A; Swart P J; Morselt H W; Pauwels R; De Bethune M P; De Clercq E; Meijer D K; Scherphof G L
AN 96174859 MEDLINE

L49 ANSWER 17 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Synthesis and applications of end-group functionalized **polyethylene glycol**-phospholipid conjugates
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1996), 37(2), 127-128
CODEN: ACPPAY; ISSN: 0032-3934
AU Zalipsky, Samuel; Brandeis, Ester; Mullah, Nasreen; Harding, Jennifer
AN 1996:562069 HCAPLUS
DN 125:230498

L49 ANSWER 18 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Functionalized polymers and their biologically-relevant conjugates
SO Frontiers in Biomedicine and Biotechnology (1996), 3(Biomedical Functions and Biotechnology of Natural and Artificial Polymers), 63-76
CODEN: FBBIET; ISSN: 1067-1897
AU Zalipsky, Samuel
AN 1996:512596 HCAPLUS
DN 125:177083

L49 ANSWER 19 OF 32 MEDLINE on STN DUPLICATE 11
TI Prolonged circulation of recombinant human granulocyte-colony stimulating factor by covalent linkage to albumin through a **heterobifunctional polyethylene glycol.**
SO Pharmaceutical research, (1995 Dec) 12 (12) 1883-8.
Journal code: 8406521. ISSN: 0724-8741.
AU Paige A G; Whitcomb K L; Liu J; Kinstler O
AN 96263330 MEDLINE

L49 ANSWER 20 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 12
TI PRIMARY AMINO-TERMINAL **HETEROBIFUNCTIONAL** POLY(ETHYLENE OXIDE) - FACILE SYNTHESIS OF POLY(ETHYLENE OXIDE) WITH A PRIMARY AMINO GROUP AT ONE END AND A HYDROXYL GROUP AT THE OTHER END
SO BIOCONJUGATE CHEMISTRY, (NOV/DEC 1995) Vol. 6, No. 6, pp. 702-704.
ISSN: 1043-1802.
AU NAGASAKI Y; IIJIMA M; KATO M; KATAOKA K (Reprint)
AN 95:839794 SCISEARCH

L49 ANSWER 21 OF 32 MEDLINE on STN DUPLICATE 13
TI Synthesis and applications of a new poly(ethylene glycol) derivative for the crosslinking of amines with thiols.
SO Bioconjugate chemistry, (1995 May-Jun) 6 (3) 242-8.
Journal code: 9010319. ISSN: 1043-1802.

AU Haselgrubler T; Amerstorfer A; Schindler H; Gruber H J
AN 95359270 MEDLINE

L49 ANSWER 22 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI FORMYL-ENDED **HETEROBIFUNCTIONAL** POLY(ETHYLENE OXIDE) - SYNTHESIS OF POLY(ETHYLENE OXIDE) WITH A FORMYL GROUP AT ONE END AND A HYDROXYL GROUP AT THE OTHER END
SO BIOCONJUGATE CHEMISTRY, (MAR/APR 1995) Vol. 6, No. 2, pp. 231-233. ISSN: 1043-1802.
AU NAGASAKI Y (Reprint); KUTSUNA T; IIJIMA M; KATO M; KATAOKA K; KITANO S; KADOMA Y
AN 95:246098 SCISEARCH

L49 ANSWER 23 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 14
TI **HETEROBIFUNCTIONAL** POLY(ETHYLENE OXIDE) - SYNTHESIS OF ALPHA-METHOXY-OMEGA-AMINO AND ALPHA-HYDROXY-OMEGA-AMINO PEOS WITH THE SAME MOLECULAR-WEIGHTS
SO BIOCONJUGATE CHEMISTRY, (MAR/APR 1995) Vol. 6, No. 2, pp. 226-230. ISSN: 1043-1802.
AU CAMMAS S; NAGASAKI Y; KATAOKA K (Reprint)
AN 95:246097 SCISEARCH

L49 ANSWER 24 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 15
TI PREPARATION AND APPLICATIONS OF **POLYETHYLENE GLYCOL** -POLYSTYRENE GRAFT RESIN SUPPORTS FOR SOLID-PHASE PEPTIDE-SYNTHESIS
SO REACTIVE POLYMERS, (JUN 1994) Vol. 22, No. 3, pp. 243-258. ISSN: 0923-1137.
AU ZALIPSKY S; CHANG J L; ALBERICIO F; BARANY G (Reprint)
AN 94:417855 SCISEARCH

L49 ANSWER 25 OF 32 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 16
TI Novel **heterobifunctionalized** polystyrene-**polyethylene glycol** resin for simultaneous preparation of free and immobilized peptides and biological activity detected by confocal microscopy.
SO Letters in Peptide Science, (1994) Vol. 1, No. 3, pp. 117-126. ISSN: 0929-5666.
AU Fleckenstein, Burkhard; Wiesmueller, Karl-Heinz; Brich, Manfred; Jung, Guenther [Reprint author]
AN 1996:479470 BIOSIS

L49 ANSWER 26 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI **HETEROBIFUNCTIONAL** POLY(ETHYLENE OXIDE) - ONE-POT SYNTHESIS OF POLY(ETHYLENE OXIDE) WITH A PRIMARY AMINO GROUP AT ONE END AND A HYDROXYL GROUP AT THE OTHER END
SO POLYMER BULLETIN, (JUN 1994) Vol. 33, No. 1, pp. 1-6. ISSN: 0170-0839.
AU KIM Y J; NAGASAKI Y (Reprint); KATAOKA K; KATO M; YOKOYAMA M; OKANO T; SAKURAI Y
AN 94:654360 SCISEARCH

L49 ANSWER 27 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Model ligands linked to polymer chains on liposomal surfaces: application of a new functionalized **polyethylene glycol**-lipid conjugate
SO Polymeric Materials Science and Engineering (1993), 69, 519-20 CODEN: PMSEDG; ISSN: 0743-0515
AU Zalipsky, Samuel; Newman, Mary S.; Punatambekar, Bhagya; Woodle, Martin C.
AN 1996:255228 HCAPLUS
DN 124:325252

L49 ANSWER 28 OF 32 MEDLINE on STN DUPLICATE 17
TI Synthesis of an end-group functionalized **polyethylene glycol**-lipid conjugate for preparation of polymer-grafted liposomes.
SO Bioconjugate chemistry, (1993 Jul-Aug) 4 (4) 296-9.
Journal code: 9010319. ISSN: 1043-1802.
AU Zalipsky S
AN 94032642 MEDLINE

L49 ANSWER 29 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Monoclonal antibody production by antigen-antibody mediated cell fusion
SO Mianyixue Zazhi (1993), 9(1), 58-60
CODEN: MIZAED; ISSN: 1000-8861
AU Liu, Jilin; Qi, Kunyuan; Chen, Yuying
AN 1993:578833 HCAPLUS
DN 119:178833

L49 ANSWER 30 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
TI The synthesis of **heterobifunctional** linkers for the conjugation of ligands to molecular probes
SO Journal of Organic Chemistry (1991), 56(13), 4326-9
CODEN: JOCEAH; ISSN: 0022-3263
AU Bertozzi, Carolyn R.; Bednarski, Mark D.
AN 1991:429746 HCAPLUS
DN 115:29746

L49 ANSWER 31 OF 32 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Production of monoclonal antibodies to calcitonin and development of a two-site enzyme immunoassay;
monoclonal antibody preparation by hybridoma construction; potential medullary thyroid carcinoma diagnosis
SO Mol.Immunol.; (1987) 24, 11, 1169-76
CODEN: MOIMD5
AU Racchetti G; Fossati G; Comitti R; Putignano S; *Galante Y M
AN 1988-01017 BIOTECHDS

L49 ANSWER 32 OF 32 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Neutralizing monoclonal antibodies to hepatitis A virus: partial localization of a neutralizing antigenic site;
hybridoma generation and monoclonal antibody production
SO J.Virol.; (1984) 52, 2, 465-73
CODEN: JOVIAM
AU Hughes J V; Stanton L W; Tomassini J E; Long W J; Scolnick E M
AN 1985-00733 BIOTECHDS

=> d ab 1,4,6,11,13-15,17-23,26,30

L49 ANSWER 1 OF 32 MEDLINE on STN DUPLICATE 1
AB Conventional synthesis of **heterobifunctional** poly(ethylene glycol) derivatives, especially of medium size, is a rather tedious task. A straightforward solid-phase methodology has been developed that is illustrated here by the synthesis of alpha-pyridyldithio-omega-hydroxy-poly(ethylene glycol)600. This derivative was prepared from resin-bound PEG600 with a global yield of 65% for 6 individual steps, i.e., with an average yield of 93%/step. Intermediate purification steps simply consisted of resin washing. Progress of each reaction toward completion could conveniently be monitored by 13C NMR of the resin-bound **PEG** derivatives. This example highlights both the versatility and efficiency of combining polymer-supported synthesis with direct 13C-NMR characterization of the intermediate compounds.

L49 ANSWER 4 OF 32 MEDLINE on STN DUPLICATE 4

AB A new synthetic method for a **heterobifunctional** poly(ethylene glycol) (**PEG**) having a monosaccharide moiety at one end was created. **PEG** with a reducing monosaccharide residue at the alpha-end, which is linked to a defined position of the sugar molecule, could be prepared via the anionic polymerization of ethylene oxide (EO) initiated with a potassium alkolate of a protected monosaccharide such as 1,2;5,6-di-O-isopropylidene-D-glucofuranose (DIGL), 1,2;3,4-di-O-isopropylidene-D-galactopyranose (DIGA), and 1,2-O-isopropylidene-3,5-O-benzylidene-D-glucofuranose (IBGL). The resulting PEGs possess the corresponding sugar molecule at the alpha-chain end and a hydroxyl group at the omega-chain end. The omega-chain end could be converted to several functional groups such as allyl, amino, and hydroxycarbonyl groups in high yield. Such **heterobifunctional** PEGs possessing a reducing monosaccharide residue at the alpha-end are one of the promising tools for bioconjugate chemistries.

L49 ANSWER 6 OF 32 MEDLINE on STN DUPLICATE 6
AB **Heterobifunctional** poly(ethylene glycol) (**PEG**) derivatives with a biotin terminus have been synthesized and characterized with respect to avidin binding. Unambiguous measurement of biotinyl and pyridyldithiopropionyl end groups was established by selecting suitable assays and introducing necessary modifications. Functional studies on the binding of biotin-**PEG** conjugates to avidin tetramers revealed much similarity to known biotin-spacer-peptide conjugates with 7-27 atom spacers: dissociation kinetics of the initially formed 4:1 complexes were multiexponential, the complex with 2 ligands per avidin dissociating rather slowly with half-times of approximately 2 days at 25 degrees C. The observed stability of 3:1 and 2:1 complexes with avidin is particularly significant since it allows exploitation of the additional advantages of **PEG** spacers, i.e. reduced steric strain in biotin-avidin-biotin bridges, reduced nonspecific adsorption of biotinylated probes and markers, and, especially, uncomparable fluorescence intensities of biotin-**PEG**-fluorophore conjugates as is demonstrated in the accompanying study (second of three papers in this issue).

L49 ANSWER 11 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
AB Unavailable

L49 ANSWER 13 OF 32 MEDLINE on STN DUPLICATE 9
AB The interaction of immobilized metal-chelating adsorbents with a dual **heterobifunctional** soluble **polyethylene glycol** (**PEG**) of the form X-**PEG**-Y is described, where X represents an affinity ligand and Y a chelating agent. The bifunctional **PEG** derivative used in this study was biotin-**PEG**-iminodiacetic acid (IDA). Affinity and metal binding constants of this conjugate for copper and avidin were found to be in excellent agreement with the binding affinities of the corresponding unconjugated groups IDA and biotin, respectively. The characteristics of the interaction of this bifunctional derivative is described in terms of its adsorption in immobilized metal affinity chromatographic (IMAC) adsorbents. The results show that this derivative can be reversibly and selectively bound to specific IMAC adsorbents under certain experimental conditions. This immobilized scheme resembles a system where an IMAC adsorbent was transformed into an affinity adsorbent as a result of the interactions of both chelating derivatives, one in solution (biotin-**PEG**-IDA) and the other on the solid matrix (IMAC adsorbent). Apparently the modified IMAC adsorbents, once the affinity chelating ligands are attached, exhibit characteristics similar to those of covalently bound affinity ligands in affinity chromatographic systems.

L49 ANSWER 14 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
AB Polymeric micelles with reducing sugar residues on their surface region were prepared **Heterobifunctional** poly(ethylene glycol) with

reducing sugar residue at one end was prepared for drug targeting.

L49 ANSWER 15 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
AB Installation of pilot mols. on surface of the micelle-forming polymeric drug is considered to further enhance cellular uptake of the micelle at target tissue. In order to achieve this strategy, new **heterobifunctional** poly(ethylene glycol) with a reducing monosaccharide residue at one end were synthesized. Potassium alkoxides of carbohydrate derivs. reacted with ethylene oxide (EO) to yield a variety of sugar derivative bearing poly(ethylene glycol). Subsequently, protective groups on carbohydrate residue were removed to yield target compds. Reducing monosaccharide residue was incorporated to one end of poly(ethylene glycol) chain regiospecifically and quant. without a spacer moiety.

L49 ANSWER 17 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
AB Efficient synthetic protocols for the preparation of various end group-functionalized **PEG**-distearoylphosphatidylethanolamine derivs. were established using **heterobifunctional PEG** derivs. These materials are used for preparation of **PEG**-grafted liposomes, which contain biol. relevant ligands covalently fixed at the periphery of the polymeric brush covering the vesicles. A balance between preservation of binding activity of the ligand and reasonable long circulating plasma lifetime could be found in almost every case. This suggests that this technol. has an array of multiple applications in targeted liposomal drug delivery as well as in platform presentation of useful ligands, which in their free form are cleared from systemic circulation too fast to be useful.

L49 ANSWER 18 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
AB A review, with 35 refs. Due to their excellent biocompatibility properties functionalized polyethylene glycols (PEGs) were developed as modifiers of biol. mols. Succinimidyl carbonate (SC) derivs. have proven themselves as reagents of choice for preparation of protein, peptide and lipid conjugates, as well as for preparation of alternating copolymers containing **PEG** and lysine, which possess excellent characteristics as carriers of low mol. weight drugs. Hydrazide (Hz) **PEG** is useful as a reagent for site-specific modification of periodate-treated glycoproteins on their carbohydrate residues. **Heterobifunctional** derivative of **PEG** containing both Hz and SC groups was synthesized and used for preparation of end-group functionalized **PEG**-lipid, forming long-circulating liposomes. The Hz-**PEG**-liposomes are useful for attachment of various ligands to the extremities of the grafted polymer chains. Amphipathic poly(2-oxazolines) with carboxyl groups at either initiation or termination ends of chain were synthesized and linked to lipids. Liposomes derived from these conjugates exhibited low hepatosplenic uptake and longevity in bloodstream to the same extent as **PEG**-grafted vesicles.

L49 ANSWER 19 OF 32 MEDLINE on STN DUPLICATE 11
AB PURPOSE: Recombinant human granulocyte-colony stimulating factor (rhG-CSF) was covalently conjugated to both rat and human serum albumin (RSA and HSA respectively) to increases the circulating half life (t1/2) of rhG-CSF. METHODS: Conjugates of RSA (MW 67,000) and HSA (MW 66,000) were prepared by linking the two proteins through a **heterobifunctional** maleimido-carboxyl **polyethylene glycol** (**PEG**) and were tested in the rat. The conjugates were injected intravenously (IV) at the equivalent dose of 50 micrograms/kg of rhG-CSF, and white blood cell (WBC) counts and plasma concentrations of drug were determined. A comparison of pharmacokinetic parameters was made between rhG-CSF, the conjugates RSA-**PEG**-rhG-CSF and HSA-**PEG**-rhG-CSF, and a non-covalent mixture of rhG-CSF and HSA. RESULTS: The albumin-rhG-CSF conjugates are eliminated more slowly from the circulation. The clearance values are reduced from 0.839 +/- 0.121 ml/min/kg for rhG-CSF to 0.172 +/-

0.013 ml/min/kg for RSA-**PEG**-rhG-CSF and 0.141 +/- 0.005 ml/min/kg for HSA-**PEG**-rhG-CSF. WBC counts increased in both absolute number and duration as compared to rhG-CSF alone. The albumin rhG-CSF conjugates had enhanced serum stability relative to free rhG-CSF. The rate of degradation of the albumin conjugates incubated in rat serum at 37 degrees C decreased five fold. CONCLUSIONS: The results from the study show that specific conjugation of rhG-CSF to albumin decreases plasma clearance in vivo, causes increased WBC response, and increases serum stability as compared to free rhG-CSF.

L49 ANSWER 20 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 12

AB Well-defined poly(ethylene oxide) (PEO) with a cyano group at one end and a hydroxyl group at the other terminus was synthesized by the anionic ring opening polymerization of ethylene oxide (EO) initiated with (cyanomethyl)potassium (CMP) which was prepared by the metalation reaction of acetonitrile with potassium naphthalene in THF. Primary amino-terminal heterotelechelic PEO was obtained by the reduction of the cyano group at the end of the polymer chain by lithium aluminum hydride.

L49 ANSWER 21 OF 32 MEDLINE on STN DUPLICATE 13

AB A **heterobifunctional** crosslinker was synthesized from a diamine derivative of poly(ethylene glycol) (**PEG**, average molecular weight 800 Da), with the functional groups 2-(pyridyldithio)propionyl (PDP) and N-hydroxysuccinimide ester (NHS). The crosslinker can be used for linkage of two different proteins for which a suitable protocol is presented, explified by crosslinking of two antibodies with 50% yield. In a second application the crosslinker is used to generate immunoliposomes. The NHS group was reacted with an aminolipid for liposome anchorage, and antibodies were bound to the PDP group via disulfide bonds. Loading of liposomes with antibodies was easily adjustable, even down to only a few per liposome. This crosslinker with its particular length appears especially suited for the flexible anchorage of biomembranes, opening new perspectives in membrane research as discussed.

L49 ANSWER 22 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

AB Well-defined poly(ethylene oxide) (**PEG**) with a formyl group at one end and a hydroxyl group at the other terminus was synthesized by the anionic ring opening polymerization of ethylene oxide (EO) with a new organometallic initiator possessing an acetal moiety, potassium 3,3-diethoxypropyl alkoxide. Hydrolysis of the acetal moiety produced a formyl group-terminated **heterobifunctional** PEO with a hydroxyl group at the other end.

L49 ANSWER 23 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 14

AB Well-defined alpha-methoxy-omega-amino and alpha-hydroxy-omega-amino poly(ethylene oxide)s (PEOs) were obtained after chemical modifications of alpha-hydroxy-omega-allyl **PEG** which was synthesized by anionic polymerization of ethylene oxide (EO) with allyl alcoholate as initiator; molecular weights of the prepolymer were controlled by the monomer/initiator ratio. Addition of methyl iodide on the hydroxy function of this prepolymer led to an alpha-methoxy-omega-allyl **PEG**; completion of the reaction and purity of the resulting polymer were demonstrated by H-1, C-13 NMR and GPC studies. Addition reactions of 2-amino-ethanethiol hydrochloride on alpha-hydroxy-omega-allyl PEO and alpha-methoxy-omega-allyl PEO in the presence of azobisisobutyronitrile (AIBN) led to the expected homopolymers without any side reactions as shown by H-1 and C-13 NMR spectra.

L49 ANSWER 26 OF 32 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

AB Well-defined poly(ethylene oxide)s with a primary amino group at one

end and a hydroxyl group at the other terminus were synthesized with a new sila-protected amino functionality initiator, potassium N-[2-(2,2,5,5-tetramethyl-1-aza-2,5-disilacyclopentyl)-ethyl]m?? ethyl amide [1b]. 1b initiated an anionic polymerization of ethylene oxide (OE) to form a polymer (PEO) without any side reactions such as a cleavage reaction of protective group and a chain transfer reaction. The molecular weights of the PEO determined from GPC and MALDI TOF-MS spectrometry agreed well with those from end group analysis using H-1 and C-13 NMR and TLC and also with the expected value from EO/initiator ratio. From these results, it was concluded that the polymers thus obtained had a primary amino group at one end and a hydroxy group at the other end and can be regarded as hetrobifunctional PEO.

L49 ANSWER 30 OF 32 HCAPLUS COPYRIGHT 2005 ACS on STN
AB The **heterobifunctional polyethylene glycol** linker H2N(CH2CH2O)3CH2CH2N3 (I) was synthesized. This linker contains a free amine that can be conjugated directly to biol. mols. or probes and an azide that can be reduced to an amine for conjugation to other mols. As an example of the use of I, a carbohydrate-fluorescein conjugate II was synthesized for use in cell-surface receptor studies.

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=> log y
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                     118.74     118.95

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)            SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                      -3.65      -3.65

STN INTERNATIONAL LOGOFF AT 11:53:06 ON 21 APR 2005

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FILE 'HOME' ENTERED AT 13:44:36 ON 21 APR 2005

=> fil .bec
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.21       0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
       ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 13:44:49 ON 21 APR 2005
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s cellulose binding domain# or cbd#
FILE 'MEDLINE'
         43038 CELLULOSE
        713408 BINDING
        196929 DOMAIN#
           385 CELLULOSE BINDING DOMAIN#
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          2239 CBD#
L1        2463 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'SCISEARCH'
         38704 CELLULOSE
        660278 BINDING
        356047 DOMAIN#
           608 CELLULOSE BINDING DOMAIN#
                 (CELLULOSE(W)BINDING(W)DOMAIN#)
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          2235 CBD#
L2        2632 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'LIFESCI'
         10010 "CELLULOSE"
        224554 "BINDING"
         90105 DOMAIN#
           312 CELLULOSE BINDING DOMAIN#
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           432 CBD#
L3         606 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'BIOTECHDS'
         11118 CELLULOSE
         35688 BINDING
         15157 DOMAIN#
           281 CELLULOSE BINDING DOMAIN#
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           173 CBD#
L4         333 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'BIOSIS'
         46721 CELLULOSE
        624533 BINDING
        199239 DOMAIN#
           516 CELLULOSE BINDING DOMAIN#
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          1772 CBD#
L5        2083 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'EMBASE'
         26813 "CELLULOSE"
        620399 "BINDING"
        181687 DOMAIN#
           382 CELLULOSE BINDING DOMAIN#
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          2100 CBD#
L6        2308 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'HCAPLUS'
        325320 CELLULOSE
        864414 BINDING
        307415 DOMAIN#
           723 CELLULOSE BINDING DOMAIN#
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          1710 CBD#
L7        2121 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'NTIS'
          3690 CELLULOSE
          9761 BINDING
         22222 DOMAIN#
             4 CELLULOSE BINDING DOMAIN#
                 (CELLULOSE(W)BINDING(W)DOMAIN#)
           332 CBD#
L8         335 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'ESBIOBASE'
          7078 CELLULOSE
        237852 BINDING
        120464 DOMAIN#
           336 CELLULOSE BINDING DOMAIN#
                 (CELLULOSE(W)BINDING(W)DOMAIN#)
           806 CBD#
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L9          975 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'BIOTECHNO'
           9154 CELLULOSE
         277750 BINDING
         111168 DOMAIN#
            361 CELLULOSE BINDING DOMAIN#
                  (CELLULOSE(W)BINDING(W)DOMAIN#)
            373 CBD#
L10         574 CELLULOSE BINDING DOMAIN# OR CBD#

FILE 'WPIDS'
          97591 CELLULOSE
         103969 BINDING
          46697 DOMAIN#
            110 CELLULOSE BINDING DOMAIN#
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            164 CBD#
L11         230 CELLULOSE BINDING DOMAIN# OR CBD#

TOTAL FOR ALL FILES
L12       14660 CELLULOSE BINDING DOMAIN# OR CBD#

=> s crystalline cellulose
FILE 'MEDLINE'
          34095 CRYSTALLINE
          43038 CELLULOSE
L13         269 CRYSTALLINE CELLULOSE
                  (CRYSTALLINE(W)CELLULOSE)

FILE 'SCISEARCH'
         103619 CRYSTALLINE
          38704 CELLULOSE
L14         690 CRYSTALLINE CELLULOSE
                  (CRYSTALLINE(W)CELLULOSE)

FILE 'LIFESCI'
           3623 "CRYSTALLINE"
          10010 "CELLULOSE"
L15         292 CRYSTALLINE CELLULOSE
                  ("CRYSTALLINE"(W)"CELLULOSE")

FILE 'BIOTECHDS'
           1535 CRYSTALLINE
          11118 CELLULOSE
L16         326 CRYSTALLINE CELLULOSE
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FILE 'BIOSIS'
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L17         620 CRYSTALLINE CELLULOSE
                  (CRYSTALLINE(W)CELLULOSE)

FILE 'EMBASE'
          14478 "CRYSTALLINE"
          26813 "CELLULOSE"
L18         296 CRYSTALLINE CELLULOSE
                  ("CRYSTALLINE"(W)"CELLULOSE")

FILE 'HCAPLUS'
          66808 CRYSTALLINE
         326906 CRYST
         346215 CRYSTALLINE
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                (CRYSTALLINE OR CRYST)
        325320 CELLULOSE
L19       2821 CRYSTALLINE CELLULOSE
                (CRYSTALLINE(W)CELLULOSE)

FILE 'NTIS'
          8491 CRYSTALLINE
          3690 CELLULOSE
L20         34 CRYSTALLINE CELLULOSE
                (CRYSTALLINE(W)CELLULOSE)

FILE 'ESBIOBASE'
          5180 CRYSTALLINE
          7078 CELLULOSE
L21        218 CRYSTALLINE CELLULOSE
                (CRYSTALLINE(W)CELLULOSE)

FILE 'BIOTECHNO'
          2758 CRYSTALLINE
          9154 CELLULOSE
L22        244 CRYSTALLINE CELLULOSE
                (CRYSTALLINE(W)CELLULOSE)

FILE 'WPIDS'
         69542 CRYSTALLINE
          1624 CRYST
         70952 CRYSTALLINE
                (CRYSTALLINE OR CRYST)
         97591 CELLULOSE
L23       1054 CRYSTALLINE CELLULOSE
                (CRYSTALLINE(W)CELLULOSE)

TOTAL FOR ALL FILES
L24       6864 CRYSTALLINE CELLULOSE

=> s (binding or affinity) and l12 and l24
FILE 'MEDLINE'
        713408 BINDING
        190697 AFFINITY
L25         59 (BINDING OR AFFINITY) AND L1 AND L13

FILE 'SCISEARCH'
        660278 BINDING
        160713 AFFINITY
L26        112 (BINDING OR AFFINITY) AND L2 AND L14

FILE 'LIFESCI'
        224554 BINDING
         67253 AFFINITY
L27         44 (BINDING OR AFFINITY) AND L3 AND L15

FILE 'BIOTECHDS'
         35688 BINDING
         14608 AFFINITY
L28         28 (BINDING OR AFFINITY) AND L4 AND L16

FILE 'BIOSIS'
        624533 BINDING
        203250 AFFINITY
L29         65 (BINDING OR AFFINITY) AND L5 AND L17

FILE 'EMBASE'
        620399 BINDING
        194894 AFFINITY
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```
L30         59 (BINDING OR AFFINITY) AND L6 AND L18

FILE 'HCAPLUS'
        864414 BINDING
        273178 AFFINITY
L31         86 (BINDING OR AFFINITY) AND L7 AND L19

FILE 'NTIS'
          9761 BINDING
          2473 AFFINITY
L32          1 (BINDING OR AFFINITY) AND L8 AND L20

FILE 'ESBIOBASE'
        237852 BINDING
         71019 AFFINITY
L33         47 (BINDING OR AFFINITY) AND L9 AND L21

FILE 'BIOTECHNO'
        277750 BINDING
         87816 AFFINITY
L34         50 (BINDING OR AFFINITY) AND L10 AND L22

FILE 'WPIDS'
        103969 BINDING
         28766 AFFINITY
L35          2 (BINDING OR AFFINITY) AND L11 AND L23

TOTAL FOR ALL FILES
L36        553 (BINDING OR AFFINITY) AND L12 AND L24

=> s l36 not 2000-2004/py
FILE 'MEDLINE'
       2699806 2000-2004/PY
L37         46 L25 NOT 2000-2004/PY

FILE 'SCISEARCH'
       5181900 2000-2004/PY
L38         71 L26 NOT 2000-2004/PY

FILE 'LIFESCI'
        534181 2000-2004/PY
L39         36 L27 NOT 2000-2004/PY

FILE 'BIOTECHDS'
        108870 2000-2004/PY
L40         24 L28 NOT 2000-2004/PY

FILE 'BIOSIS'
       2704904 2000-2004/PY
L41         50 L29 NOT 2000-2004/PY

FILE 'EMBASE'
       2374417 2000-2004/PY
L42         48 L30 NOT 2000-2004/PY

FILE 'HCAPLUS'
       5119564 2000-2004/PY
L43         63 L31 NOT 2000-2004/PY

FILE 'NTIS'
         84699 2000-2004/PY
L44          1 L32 NOT 2000-2004/PY

FILE 'ESBIOBASE'
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       1464155 2000-2004/PY
L45          32 L33 NOT 2000-2004/PY

FILE 'BIOTECHNO'
        491187 2000-2004/PY
L46          42 L34 NOT 2000-2004/PY

FILE 'WPIDS'
       4543700 2000-2004/PY
L47           0 L35 NOT 2000-2004/PY

TOTAL FOR ALL FILES
L48         413 L36 NOT 2000-2004/PY

=> dup rem l48
PROCESSING COMPLETED FOR L48
L49          101 DUP REM L48 (312 DUPLICATES REMOVED)

=> d tot

L49  ANSWER 1 OF 101  SCISEARCH  COPYRIGHT (c) 2005 The Thomson Corporation  on
     STN                                              DUPLICATE 1
TI   The interaction of carbohydrate-binding modules with insoluble
     non-crystalline cellulose is enthalpically driven
SO   BIOCHEMICAL JOURNAL, (15 JAN 2005) Vol. 385, Part 2, pp. 479-484.
     Publisher: PORTLAND PRESS LTD, 59 PORTLAND PLACE, LONDON W1B 1QW, ENGLAND.
     ISSN: 0264-6021.
AU   Boraston A B (Reprint)
AN   2005:138412  SCISEARCH

L49  ANSWER 2 OF 101  SCISEARCH  COPYRIGHT (c) 2005 The Thomson Corporation  on
     STN
TI   Dynamic interaction of Trichoderma reesei cellobiohydrolases Ce16A and
     Ce17A and cellulose at equilibrium and during hydrolysis
SO   APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (DEC 1999) Vol. 65, No. 12, pp.
     5229-5233.
     Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW,
     WASHINGTON, DC 20005-4171.
     ISSN: 0099-2240.
AU   Palonen H; Tenkanen M; Linder M (Reprint)
AN   1999:949044  SCISEARCH

L49  ANSWER 3 OF 101     MEDLINE on STN                  DUPLICATE 2
TI   Duplicated Clostridium thermocellum cellobiohydrolase gene encoding
     cellulosomal subunits S3 and S5.
SO   Applied microbiology and biotechnology, (1999 Jun) 51 (6) 852-9.
     Journal code: 8406612. ISSN: 0175-7598.
AU   Zverlov V V; Velikodvorskaya G A; Schwarz W H; Kellermann J; Staudenbauer
     W L
AN   1999351130     MEDLINE

L49  ANSWER 4 OF 101  SCISEARCH  COPYRIGHT (c) 2005 The Thomson Corporation  on
     STN
TI   Enzymes, energy, and the environment: A strategic perspective on the US
     Department of Energy's Research and Development Activities for Bioethanol
SO   BIOTECHNOLOGY PROGRESS, (SEP-OCT 1999) Vol. 15, No. 5, pp. 817-827.
     Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
     ISSN: 8756-7938.
AU   Sheehan J; Himmel M (Reprint)
AN   1999:766004  SCISEARCH

L49  ANSWER 5 OF 101  SCISEARCH  COPYRIGHT (c) 2005 The Thomson Corporation  on
     STN
TI   Widely different off rates of two closely related cellulose-
```

binding domains from Trichoderma reesei
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (JUN 1999) Vol. 262, No. 3, pp. 637-643. Publisher: BLACKWELL SCIENCE LTD, P O BOX 88, OSNEY MEAD, OXFORD OX2 0NE, OXON, ENGLAND.
ISSN: 0014-2956.
AU Carrard G (Reprint); Linder M
AN 1999:512381 SCISEARCH

L49 ANSWER 6 OF 101 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI The type II and X **cellulose-binding domains** of Pseudomonas xylanase A potentiate catalytic activity against complex substrates by a common mechanism
SO BIOCHEMICAL JOURNAL, (1 SEP 1999) Vol. 342, Part 2, pp. 473-480. Publisher: PORTLAND PRESS, 59 PORTLAND PLACE, LONDON W1N 3AJ, ENGLAND.
ISSN: 0264-6021.
AU Gill J; Rixon J E; Bolam D N; McQueenMason S; Simpson P J; Williamson M P; Hazlewood G P; Gilbert H J (Reprint)
AN 1999:716106 SCISEARCH

L49 ANSWER 7 OF 101 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Engineering the catalytic and **binding** properties of the cellobiohydrolases from Trichoderma reesei
SO Special Publication - Royal Society of Chemistry (1999), 246(Recent Advances in Carbohydrate Bioengineering), 302-308
CODEN: SROCDO; ISSN: 0260-6291
AU Teeri, T. T.; Divne, C.; Jones, T. A.; Kleywegt, G.; Koivula, A.; Linder, M.; Stahlberg, J.; Von Ossowski, I.; Wohlfahrt, G.; Zou, J.-Y.
AN 2000:29438 HCAPLUS
DN 132:177277

L49 ANSWER 8 OF 101 MEDLINE on STN DUPLICATE 3
TI A beta-1,4-endoglucanase-encoding gene from Cellulomonas pachnodae.
SO Applied microbiology and biotechnology, (1999 Aug) 52 (2) 232-9.
Journal code: 8406612. ISSN: 0175-7598.
AU Cazemier A E; Verdoes J C; Op den Camp H J; Hackstein J H; van Ooyen A J
AN 1999429078 MEDLINE

L49 ANSWER 9 OF 101 MEDLINE on STN DUPLICATE 4
TI Active-site mutations which change the substrate specificity of the Clostridium stercorarium cellulase CelZ implications for synergism.
SO European journal of biochemistry / FEBS, (1999 May) 262 (1) 218-23.
Journal code: 0107600. ISSN: 0014-2956.
AU Riedel K; Bronnenmeier K
AN 1999248085 MEDLINE

L49 ANSWER 10 OF 101 MEDLINE on STN DUPLICATE 5
TI Endoglucanase 28 (Cel12A), a new Phanerochaete chrysosporium cellulase.
SO European journal of biochemistry / FEBS, (1999 Jan) 259 (1-2) 88-95.
Journal code: 0107600. ISSN: 0014-2956.
AU Henriksson G; Nutt A; Henriksson H; Pettersson B; Stahlberg J; Johansson G; Pettersson G
AN 1999115427 MEDLINE

L49 ANSWER 11 OF 101 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Cellulase core proteins from trichoderma reesei; **binding** properties and efficiency in cellulose hydrolysis
SO Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), CELL-018 Publisher: American Chemical Society, Washington, D. C.
CODEN: 67GHA6
AU Tenkanen, Maija; Suurnakki, Anna; Siika-aho, Matti; Palonen, Hetti; Linder, Markus; Kotiranta, Pia; Tjerneld, Folke; Buchert, Johanna; Viikari, Liisa

AN 1999:91347 HCAPLUS

L49 ANSWER 12 OF 101 MEDLINE on STN DUPLICATE 6
TI Design of a pH-dependent **cellulose-binding domain.**
SO FEBS letters, (1999 Mar 19) 447 (1) 13-6.
Journal code: 0155157. ISSN: 0014-5793.
AU Linder M; Nevanen T; Teeri T T
AN 1999232940 MEDLINE

L49 ANSWER 13 OF 101 HCAPLUS COPYRIGHT 2005 ACS on STN
TI Macromolecular assembly of the clostridium thermocellum cellulosome
SO Book of Abstracts, 217th ACS National Meeting, Anaheim, Calif., March 21-25 (1999), CELL-011 Publisher: American Chemical Society, Washington, D. C.
CODEN: 67GHA6
AU Wu, J. H. D.; Lytle, B. L.; Huynh, J. T.
AN 1999:91340 HCAPLUS

L49 ANSWER 14 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Cellulase core proteins from Trichoderma reesei; **binding** properties and efficiency in cellulose hydrolysis; cellobiohydrolase-I and -II and endoglucanase-I and -II for cellulose and kraft pulp hydrolysis (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1999) 217 Meet. Pt.1, CELL018
CODEN: ACSRAL ISSN: 0065-7727
217th ACS National Meeting, American Chemical Society, Anaheim, CA, USA, 21-25 March, 1999.
AU Tenkanen M; Suurnakki A; Siika-aho M; Palonen H; Linder M; Kotiranta P; Tjerneld F; Buchert J; Viikari L
AN 2000-00872 BIOTECHDS

L49 ANSWER 15 OF 101 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Improved immobilization of fusion proteins via **cellulose-binding domains**
SO BIOTECHNOLOGY AND BIOENGINEERING, (5 DEC 1998) Vol. 60, No. 5, pp. 642-647.
Publisher: JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012.
ISSN: 0006-3592.
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AN 1998:821748 SCISEARCH

L49 ANSWER 16 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Possible roles for a non-modular, thermostable and proteinase-resistant cellulase from the mesophilic aerobic soil bacterium Cellvibrio mixtus; gene cloning and characterization
SO Appl.Microbiol.Biotechnol.; (1998) 48, 4, 473-79
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L49 ANSWER 17 OF 101 MEDLINE on STN DUPLICATE 7
TI Characterization and **affinity** applications of **cellulose-binding domains.**
SO Journal of chromatography. B, Biomedical sciences and applications, (1998 Sep 11) 715 (1) 283-96.
Journal code: 9714109. ISSN: 1387-2273.
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AN 1999007002 MEDLINE

L49 ANSWER 18 OF 101 MEDLINE on STN DUPLICATE 8

TI Solution structure of the **cellulose-binding domain** of endoglucanase I from Trichoderma reesei and its interaction with cello-oligosaccharides.
SO European journal of biochemistry / FEBS, (1998 Sep 1) 256 (2) 279-86. Journal code: 0107600. ISSN: 0014-2956.
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L49 ANSWER 73 OF 101 MEDLINE on STN DUPLICATE 41
TI Disulfide arrangement and functional domains of beta-1,4-endoglucanse E5 from Thermomonospora fusca.
SO Biochemistry, (1993 Aug 17) 32 (32) 8157-61.
Journal code: 0370623. ISSN: 0006-2960.
AU McGinnis K; Wilson D B
AN 93349905 MEDLINE

L49 ANSWER 74 OF 101 MEDLINE on STN DUPLICATE 42
TI Characterization of the **cellulose-binding domain** of the Clostridium cellulovorans cellulose-**binding** protein A.
SO Journal of bacteriology, (1993 Sep) 175 (18) 5762-8.
Journal code: 2985120R. ISSN: 0021-9193.
AU Goldstein M A; Takagi M; Hashida S; Shoseyov O; Doi R H; Segel I H
AN 93388504 MEDLINE

L49 ANSWER 75 OF 101 MEDLINE on STN DUPLICATE 43
TI The cellulosome: the exocellular organelle of Clostridium.
SO Annual review of microbiology, (1993) 47 791-819. Ref: 139
Journal code: 0372370. ISSN: 0066-4227.
AU Felix C R; Ljungdahl L G
AN 94079337 MEDLINE

L49 ANSWER 76 OF 101 MEDLINE on STN DUPLICATE 44
TI Visualization of the adsorption of a bacterial endo-beta-1,4-glucanase and its isolated **cellulose-binding domain** to **crystalline cellulose.**
SO International journal of biological macromolecules, (1993 Dec) 15 (6) 347-51.
Journal code: 7909578. ISSN: 0141-8130.
AU Gilkes N R; Kilburn D G; Miller R C Jr; Warren R A; Sugiyama J; Chanzy H; Henrissat B
AN 94153798 MEDLINE

L49 ANSWER 77 OF 101 MEDLINE on STN DUPLICATE 45
TI Identification of the **cellulose-binding domain** of a Bacillus subtilis endoglucanase distinct from its catalytic domain.
SO Bioscience, biotechnology, and biochemistry, (1993 Feb) 57 (2) 260-4. Journal code: 9205717. ISSN: 0916-8451.
AU Park J S; Nakamura A; Horinouchi S; Beppu T
AN 93214113 MEDLINE

L49 ANSWER 78 OF 101 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN DUPLICATE 46
TI THE NATURE OF THE **CELLULOSE-BINDING DOMAIN** AFFECTS THE ACTIVITIES OF A BACTERIAL ENDOGLUCANASE ON DIFFERENT FORMS OF CELLULOSE
SO FEMS MICROBIOLOGY LETTERS, (15 OCT 1993) Vol. 113, No. 2, pp. 211-218. ISSN: 0378-1097.
AU COUTINHO J B; GILKES N R; KILBURN D G; WARREN R A J (Reprint); MILLER R C
AN 93:666713 SCISEARCH

L49 ANSWER 79 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Three dimensional structure of wild-type and mutant Thermomonospora fusca endocellulase E2 catalytic domains; thermostable cellulase **cellulose-binding domain** and catalytic domain characterization (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1993) 205 Meet., Pt.2, BTEC21 CODEN: ACSRAL
AU Spezio M; Karplus P A; Taylor J; Wilson D B
AN 1993-06517 BIOTECHDS

L49 ANSWER 80 OF 101 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI THE DICTYOSTELIUM-DISCOIDEUM SPORE GERMINATION-SPECIFIC CELLULASE IS ORGANIZED INTO FUNCTIONAL DOMAINS
SO JOURNAL OF BACTERIOLOGY, (DEC 1992) Vol. 174, No. 23, pp. 7834-7837. ISSN: 0021-9193.
AU RAMALINGAM R; BLUME J E; ENNIS H L (Reprint)
AN 92:701686 SCISEARCH

L49 ANSWER 81 OF 101 MEDLINE on STN DUPLICATE 47
TI The adsorption of a bacterial cellulase and its two isolated domains to **crystalline cellulose.**
SO Journal of biological chemistry, (1992 Apr 5) 267 (10) 6743-9. Journal code: 2985121R. ISSN: 0021-9258.
AU Gilkes N R; Jervis E; Henrissat B; Tekant B; Miller R C Jr; Warren R A; Kilburn D G
AN 92202222 MEDLINE

L49 ANSWER 82 OF 101 MEDLINE on STN DUPLICATE 48
TI The gene encoding the cellulase (Avicelase) Cel1 from Streptomyces reticuli and analysis of protein domains.
SO Molecular microbiology, (1992 Dec) 6 (23) 3611-21. Journal code: 8712028. ISSN: 0950-382X.
AU Schlochtermeier A; Walter S; Schroder J; Moorman M; Schrempf H
AN 93116600 MEDLINE

L49 ANSWER 83 OF 101 MEDLINE on STN DUPLICATE 49
TI Primary sequence analysis of Clostridium cellulovorans cellulose **binding** protein A.
SO Proceedings of the National Academy of Sciences of the United States of America, (1992 Apr 15) 89 (8) 3483-7. Journal code: 7505876. ISSN: 0027-8424.
AU Shoseyov O; Takagi M; Goldstein M A; Doi R H
AN 92228810 MEDLINE

L49 ANSWER 84 OF 101 MEDLINE on STN DUPLICATE 50
TI The **binding** of Cellulomonas fimi endoglucanase C (CenC) to cellulose and Sephadex is mediated by the N-terminal repeats.
SO Molecular microbiology, (1992 May) 6 (9) 1243-52.
Journal code: 8712028. ISSN: 0950-382X.
AU Coutinho J B; Gilkes N R; Warren R A; Kilburn D G; Miller R C Jr
AN 92269585 MEDLINE

L49 ANSWER 85 OF 101 MEDLINE on STN DUPLICATE 51
TI Investigation of the function of mutated **cellulose-binding domains** of Trichoderma reesei cellobiohydrolase I.
SO Proteins, (1992 Dec) 14 (4) 475-82.
Journal code: 8700181. ISSN: 0887-3585.
AU Reinikainen T; Ruohonen L; Nevanen T; Laaksonen L; Kraulis P; Jones T A; Knowles J K; Teeri T T
AN 93066164 MEDLINE

L49 ANSWER 86 OF 101 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI ANALYSIS OF FUNCTIONAL DOMAINS OF ENDOGLUCANASES FROM CLOSTRIDIUM-CELLULOVORANS BY GENE CLONING, NUCLEOTIDE SEQUENCING AND CHIMERIC PROTEIN CONSTRUCTION
SO MOLECULAR & GENERAL GENETICS, (FEB 1992) Vol. 231, No. 3, pp. 472-479.
ISSN: 0026-8925.
AU HAMAMOTO T; FOONG F; SHOSEYOV O; DOI R H (Reprint)
AN 92:127423 SCISEARCH

L49 ANSWER 87 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI The molecular architecture of xylanases from Pseudomonas fluorescens subsp. cellulosa;
endo-1,4-beta-D-xylanase, alpha-L-arabinofuranosidase and acetylesterase characterization and gene cloning (conference paper)
SO Prog.Biotechnol.; (1992) 7, 259-73
CODEN: PBITE3
AU Hazlewood G P; Gilbert H J
AN 1994-10112 BIOTECHDS

L49 ANSWER 88 OF 101 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Identification of the **cellulose-binding domain** of the cellulosome subunit S1 from Clostridium thermocellum YS.
SO FEMS (Federation of European Microbiological Societies) Microbiology Letters, (1992) Vol. 99, No. 2-3, pp. 181-186.
CODEN: FMLED7. ISSN: 0378-1097.
AU Poole, Debbie M.; Morag, Ely; Lamed, Raphael; Bayer, Edward A.; Hazlewood, Geoffrey P.; Gilbert, Harry J. [Reprint author]
AN 1993:122258 BIOSIS

L49 ANSWER 89 OF 101 MEDLINE on STN DUPLICATE 52
TI Biochemistry and genetics of actinomycete cellulases.
SO Critical reviews in biotechnology, (1992) 12 (1-2) 45-63. Ref: 73
Journal code: 8505177. ISSN: 0738-8551.
AU Wilson D B
AN 92127620 MEDLINE

L49 ANSWER 90 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Studies of Thermomonospora fusca cellulases;
CM-cellulase and cellobiohydrolase purification and characterization, and gene cloning and expression in Escherichia coli and Streptomyces lividans (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1992) 203 Meet., Pt.1, BIOT17
CODEN: ACSRAL

AU Lao G; McGinnis K; Spezio M; Wilson D
AN 1992-08771 BIOTECHDS

L49 ANSWER 91 OF 101 MEDLINE on STN DUPLICATE 53
TI The cellodextrinase from Pseudomonas fluorescens subsp. cellulosa consists of multiple functional domains.
SO Biochemical journal, (1991 Nov 1) 279 (Pt 3) 793-9.
Journal code: 2984726R. ISSN: 0264-6021.
AU Ferreira L M; Hazlewood G P; Barker P J; Gilbert H J
AN 92061996 MEDLINE

L49 ANSWER 92 OF 101 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI ENGINEERING OF ENZYMES OF CARBOHYDRATE-METABOLISM
SO CURRENT OPINION IN BIOTECHNOLOGY, (1991) Vol. 2, No. 4, pp. 614-621.
AU TEERI T T (Reprint)
AN 91:541856 SCISEARCH

L49 ANSWER 93 OF 101 MEDLINE on STN DUPLICATE 54
TI The non-catalytic C-terminal region of endoglucanase E from Clostridium thermocellum contains a **cellulose-binding domain.**
SO Biochemical journal, (1991 Jan 15) 273(Pt 2) 289-93.
Journal code: 2984726R. ISSN: 0264-6021.
AU Durrant A J; Hall J; Hazlewood G P; Gilbert H J
AN 91119553 MEDLINE

L49 ANSWER 94 OF 101 MEDLINE on STN DUPLICATE 55
TI The 1,4-beta-D-glucan cellobiohydrolases from Phanerochaete chrysosporium. I. A system of synergistically acting enzymes homologous to Trichoderma reesei.
SO Journal of biotechnology, (1991 Jul) 19 (2-3) 271-85.
Journal code: 8411927. ISSN: 0168-1656.
AU Uzcategui E; Ruiz A; Montesino R; Johansson G; Pettersson G
AN 91273927 MEDLINE

L49 ANSWER 95 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Purification and characterization of fungal cellulases; cellulase complex isolation from Fusarium, Humicola and Mycelopthera spp. (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1991) 202 Meet., Pt.1, BIOT187
CODEN: ACSRAL
AU Schuelein M; Schou C; Rasmussen G
AN 1991-14350 BIOTECHDS

L49 ANSWER 96 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI How do Trichoderma reesei cellobiohydrolases bind to and degrade cellulose (query); cellobiohydrolase and cellulase characterization (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1991) 202 Meet., Pt.1, BIOT206
CODEN: ACSRAL
AU Reinikainen T R; Ruohonen L; Koivula A; Srisodsuk M; Jones A; Knowles J K C
AN 1991-14356 BIOTECHDS

L49 ANSWER 97 OF 101 MEDLINE on STN DUPLICATE 56
TI The N-terminal region of an endoglucanase from Pseudomonas fluorescens subspecies cellulosa constitutes a **cellulose-binding domain** that is distinct from the catalytic centre.
SO Molecular microbiology, (1990 May) 4 (5) 759-67.
Journal code: 8712028. ISSN: 0950-382X.
AU Gilbert H J; Hall J; Hazlewood G P; Ferreira L M
AN 90355836 MEDLINE

L49 ANSWER 98 OF 101 MEDLINE on STN DUPLICATE 57
TI Xylanase B and an arabinofuranosidase from Pseudomonas fluorescens subsp. cellulosa contain identical **cellulose-binding domains** and are encoded by adjacent genes.
SO Biochemical journal, (1990 Dec 1) 272 (2) 369-76.
Journal code: 2984726R. ISSN: 0264-6021.
AU Kellett L E; Poole D M; Ferreira L M; Durrant A J; Hazlewood G P; Gilbert H J
AN 91097447 MEDLINE

L49 ANSWER 99 OF 101 MEDLINE on STN DUPLICATE 58
TI Spatial separation of protein domains is not necessary for catalytic activity or substrate **binding** in a xylanase.
SO Biochemical journal, (1990 Jul 1) 269 (1) 261-4.
Journal code: 2984726R. ISSN: 0264-6021.
AU Ferreira L M; Durrant A J; Hall J; Hazlewood G P; Gilbert H J
AN 90328982 MEDLINE

L49 ANSWER 100 OF 101 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Structural and functional aspects of cellulases from a cellulolytic bacterium;
Cellulomonas fimi cellulase characterization (conference abstract)
SO Abstr.Pap.Am.Chem.Soc.; (1989) 198 Meet., MBTD40
CODEN: ACSRAL
AU Gilkes N R; Kilburn D G; Miller Jr R C; Warren R A J
AN 1990-00472 BIOTECHDS

L49 ANSWER 101 OF 101 NTIS COPYRIGHT 2005 NTIS on STN
TI Computer-Aided Protein Modelling: Applications to Antibody and Enzyme Engineering. Thesis.
NR PB95-129706/XAB; VTT/PUB-185, ISBN-951-38-4623-7
148p; c1994
AU Hoffren, A. M.
AN 1995(14):05754 NTIS

=> s humicola insolens
FILE 'MEDLINE'
282 HUMICOLA
64 INSOLENS
L50 60 HUMICOLA INSOLENS
(HUMICOLA(W)INSOLENS)

FILE 'SCISEARCH'
659 HUMICOLA
126 INSOLENS
L51 114 HUMICOLA INSOLENS
(HUMICOLA(W)INSOLENS)

FILE 'LIFESCI'
352 "HUMICOLA"
56 "INSOLENS"
L52 43 HUMICOLA INSOLENS
("HUMICOLA"(W)"INSOLENS")

FILE 'BIOTECHDS'
613 HUMICOLA
120 INSOLENS
L53 118 HUMICOLA INSOLENS
(HUMICOLA(W)INSOLENS)

FILE 'BIOSIS'
1157 HUMICOLA
205 INSOLENS

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L54         147 HUMICOLA INSOLENS
                (HUMICOLA(W)INSOLENS)

FILE 'EMBASE'
            303 "HUMICOLA"
             55 "INSOLENS"
L55          55 HUMICOLA INSOLENS
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FILE 'HCAPLUS'
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            303 INSOLENS
L56         289 HUMICOLA INSOLENS
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FILE 'NTIS'
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              0 INSOLENS
L57           0 HUMICOLA INSOLENS
                (HUMICOLA(W)INSOLENS)

FILE 'ESBIOBASE'
            235 HUMICOLA
             60 INSOLENS
L58          54 HUMICOLA INSOLENS
                (HUMICOLA(W)INSOLENS)

FILE 'BIOTECHNO'
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             44 INSOLENS
L59          42 HUMICOLA INSOLENS
                (HUMICOLA(W)INSOLENS)

FILE 'WPIDS'
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            100 INSOLENS
L60          83 HUMICOLA INSOLENS
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TOTAL FOR ALL FILES
L61        1005 HUMICOLA INSOLENS

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FILE 'MEDLINE'
L62           5 L1 AND L50

FILE 'SCISEARCH'
L63          12 L2 AND L51

FILE 'LIFESCI'
L64           6 L3 AND L52

FILE 'BIOTECHDS'
L65          16 L4 AND L53

FILE 'BIOSIS'
L66           9 L5 AND L54

FILE 'EMBASE'
L67           7 L6 AND L55

FILE 'HCAPLUS'
L68          32 L7 AND L56
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FILE 'NTIS'
L69           0 L8 AND L57

FILE 'ESBIOBASE'
L70           7 L9 AND L58

FILE 'BIOTECHNO'
L71           7 L10 AND L59

FILE 'WPIDS'
L72          14 L11 AND L60

TOTAL FOR ALL FILES
L73         115 L12 AND L61

=> s l73 not 2000-2005/py
FILE 'MEDLINE'
       2868042 2000-2005/PY
L74           5 L62 NOT 2000-2005/PY

FILE 'SCISEARCH'
       5407808 2000-2005/PY
L75           6 L63 NOT 2000-2005/PY

FILE 'LIFESCI'
        536082 2000-2005/PY
L76           4 L64 NOT 2000-2005/PY

FILE 'BIOTECHDS'
        112848 2000-2005/PY
L77          12 L65 NOT 2000-2005/PY

FILE 'BIOSIS'
       2729806 2000-2005/PY
L78           5 L66 NOT 2000-2005/PY

FILE 'EMBASE'
       2477748 2000-2005/PY
L79           5 L67 NOT 2000-2005/PY

FILE 'HCAPLUS'
       5370259 2000-2005/PY
L80          11 L68 NOT 2000-2005/PY

FILE 'NTIS'
         85025 2000-2005/PY
L81           0 L69 NOT 2000-2005/PY

FILE 'ESBIOBASE'
       1535212 2000-2005/PY
L82           5 L70 NOT 2000-2005/PY

FILE 'BIOTECHNO'
        491187 2000-2005/PY
L83           5 L71 NOT 2000-2005/PY

FILE 'WPIDS'
       4695517 2000-2005/PY
L84           3 L72 NOT 2000-2005/PY

TOTAL FOR ALL FILES
L85          61 L73 NOT 2000-2005/PY

=> s (binding or affinity) and l61 and l24
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FILE 'MEDLINE'
        713408 BINDING
        190697 AFFINITY
L86          2 (BINDING OR AFFINITY) AND L50 AND L13

FILE 'SCISEARCH'
        660278 BINDING
        160713 AFFINITY
L87          7 (BINDING OR AFFINITY) AND L51 AND L14

FILE 'LIFESCI'
        224554 BINDING
         67253 AFFINITY
L88          1 (BINDING OR AFFINITY) AND L52 AND L15

FILE 'BIOTECHDS'
         35688 BINDING
         14608 AFFINITY
L89          1 (BINDING OR AFFINITY) AND L53 AND L16

FILE 'BIOSIS'
        624533 BINDING
        203250 AFFINITY
L90          2 (BINDING OR AFFINITY) AND L54 AND L17

FILE 'EMBASE'
        620399 BINDING
        194894 AFFINITY
L91          2 (BINDING OR AFFINITY) AND L55 AND L18

FILE 'HCAPLUS'
        864414 BINDING
        273178 AFFINITY
L92          2 (BINDING OR AFFINITY) AND L56 AND L19

FILE 'NTIS'
          9761 BINDING
          2473 AFFINITY
L93          0 (BINDING OR AFFINITY) AND L57 AND L20

FILE 'ESBIOBASE'
        237852 BINDING
         71019 AFFINITY
L94          2 (BINDING OR AFFINITY) AND L58 AND L21

FILE 'BIOTECHNO'
        277750 BINDING
         87816 AFFINITY
L95          1 (BINDING OR AFFINITY) AND L59 AND L22

FILE 'WPIDS'
        103969 BINDING
         28766 AFFINITY
L96          1 (BINDING OR AFFINITY) AND L60 AND L23

TOTAL FOR ALL FILES
L97         21 (BINDING OR AFFINITY) AND L61 AND L24

=> dup rem l97
PROCESSING COMPLETED FOR L97
L98           8 DUP REM L97 (13 DUPLICATES REMOVED)

=> d tot
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L98 ANSWER 1 OF 8 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Protein disorder: Conformational distribution of the flexible linker in a chimeric double cellulase
SO BIOPHYSICAL JOURNAL, (APR 2005) Vol. 88, No. 4, pp. 2823-2832.
Publisher: BIOPHYSICAL SOCIETY, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814-3998 USA.
ISSN: 0006-3495.
AU von Ossowski I; Eaton J T; Czjzek M; Perkins S J; Frandsen T P; Schulein M; Panine P; Henrissat B; Receveur-Brechot V (Reprint)
AN 2005:368699 SCISEARCH

L98 ANSWER 2 OF 8 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Dimension, shape, and conformational flexibility of a two domain fungal cellulase in solution probed by small angle X-ray scattering
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (25 OCT 2002) Vol. 277, No. 43, pp. 40887-40892.
Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814-3996 USA.
ISSN: 0021-9258.
AU Receveur W (Reprint); Czjzek M; Schulein M; Panine P; Henrissat B
AN 2002:890802 SCISEARCH

L98 ANSWER 3 OF 8 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
TI Chemical entities for fabric care comprises chemical components linked to a cellulose **binding** domain which has specified **binding** constants;
also claimed are a laundry surfactant and/or fabric care composition
AU Smets J; Baeck A C; Busch A; Boyer S L
AN 2000-09604 BIOTECHDS
PI WO 2000018898 6 Apr 2000

L98 ANSWER 4 OF 8 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Site-directed mutation of noncatalytic residues of Thermobifida fusca exocellulase Cel6B
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (JUN 2000) Vol. 267, No. 11, pp. 3101-3115.
Publisher: BLACKWELL SCIENCE LTD, P O BOX 88, OSNEY MEAD, OXFORD OX2 0NE, OXON, ENGLAND.
ISSN: 0014-2956.
AU Zhang S; Irwin D C; Wilson D B (Reprint)
AN 2000:426350 SCISEARCH

L98 ANSWER 5 OF 8 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Effects of agitation level on the adsorption, desorption, and activities on cotton fabrics of full length and core domains of EGV (**Humicola insolens**) and CenA (Cellulomonas fimi)
SO ENZYME AND MICROBIAL TECHNOLOGY, (AUG 2000) Vol. 27, No. 3-5, pp. 325-329.
Publisher: ELSEVIER SCIENCE INC, 655 AVENUE OF THE AMERICAS, NEW YORK, NY 10010.
ISSN: 0141-0229.
AU Azevedo H; Bishop D; CavacoPaulo A (Reprint)
AN 2000:557549 SCISEARCH

L98 ANSWER 6 OF 8 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN
TI Protein engineering of cellulases
SO BIOCHIMICA ET BIOPHYSICA ACTA-PROTEIN STRUCTURE AND MOLECULAR ENZYMOLOGY, (29 DEC 2000) Vol. 1543, No. 2, Sp. iss. SI, pp. 239-252.
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.

ISSN: 0167-4838.
AU Schulein M (Reprint)
AN 2001:95302 SCISEARCH

L98 ANSWER 7 OF 8 MEDLINE on STN DUPLICATE 2
TI Structure and function of **Humicola insolens** family 6 cellulases: structure of the endoglucanase, Cel6B, at 1.6 A resolution.
SO Biochemical journal, (2000 May 15) 348 Pt 1 201-7.
Journal code: 2984726R. ISSN: 0264-6021.
AU Davies G J; Brzozowski A M; Dauter M; Varrot A; Schulein M
AN 2000256782 MEDLINE

L98 ANSWER 8 OF 8 MEDLINE on STN DUPLICATE 3
TI Structural changes of the active site tunnel of **Humicola insolens** cellobiohydrolase, Cel6A, upon oligosaccharide **binding.**
SO Biochemistry, (1999 Jul 13) 38 (28) 8884-91.
Journal code: 0370623. ISSN: 0006-2960.
AU Varrot A; Schulein M; Davies G J
AN 1999343913 MEDLINE

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	294.74	294.95

STN INTERNATIONAL LOGOFF AT 14:07:29 ON 21 APR 2005

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L2	6685	crystalline cellulose	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:33
L3	39897	binding constant or high affinity or affinity constant	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:33
L4	15	2 same 3	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:33
L5	11	1 and 4	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:33
L6	1214	humicola insolens	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:34
L7	37	6 same 1	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:42
L8	2	4 and 6	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:42

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L3	39897	binding constant or high affinity or affinity constant	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:33
L4	15	2 same 3	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:33
L5	11	1 and 4	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:33
L6	1214	humicola insolens	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:34
L7	37	6 same 1	US-PGPUB; USPAT	ADJ	OFF	2005/04/21 13:34

PGPUB-DOCUMENT-NUMBER: 20050070003

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050070003 A1

TITLE: Endoglucanases

PUBLICATION-DATE: March 31, 2005

INVENTOR-INFORMATION:

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Kauppinen, Markus Sakari	Kobenhavn N		DK	
Lange, Lene	Valby		DK	
Nielsen, Ruby Ilum	Farum		DK	
Takagi, Shinobu	Ichikawa-shi		JP	
Ihara, Michiko	Chiba-shi		JP	

APPL-NO: 10/ 965499

DATE FILED: October 14, 2004

RELATED-US-APPL-DATA:

child 10965499 A1 20041014

parent continuation-of 10007521 20011210 US GRANTED

parent-patent 6855531 US

child 10007521 20011210 US

parent continuation-of 09229911 19990113 US GRANTED

parent-patent 6387690 US

child 09229911 19990113 US

parent division-of 08651136 19960521 US GRANTED

parent-patent 6001639 US

child 08651136 19960521 US

parent continuation-of PCT/DK96/00105 19960318 US UNKNOWN

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
DK	0272/95	1995DK-0272/95	March 17, 1995
DK	0885/95	1995DK-0885/95	August 8, 1995
DK	0886/95	1995DK-0886/95	August 8, 1995
DK	0887/95	1995DK-0887/95	August 8, 1995
JP	0888/95	1995JP-0888/95	August 8, 1995
JP	0137/96	1996JP-0137/96	February 12, 1996

US-CL-CURRENT: 435/209

ABSTRACT:

The present invention relates to enzyme preparations consisting essentially of an enzyme which has cellulytic activity and comprises a first amino acid sequence having the following sequence 1 (SEQ ID NO: 79) Thr Arg Xaa Xaa Asp Cys Cys Xaa Xaa Xaa Cys Xaa Trp Xaa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 and a second amino acid sequence having the following sequence 2 Trp Cys Cys Xaa Cys (SEQ ID NO: 80) 1 2 3 4 5
wherein, at position 3 of the first sequence, the amino acid is Trp, Tyr or Phe; at position 4 of the first sequence, the amino acid is Trp, Tyr or Phe; at position 8 of the first sequence, the amino acid is Arg, Lys or His; at positions 9, 10, 12 and 14, respectively, of the first sequence, and at position 4 of the second sequence, the amino acid is any of the 20 naturally occurring amino acid residues with the provisos that, in the first amino acid sequence, (i) when the amino residue at position 12 is Ser, then the amino acid residue at position 14 is not Ser, and (ii) when the amino residue at position 12 is Gly, then the amino acid residue at position 14 is not Ala, performs very well in industrial applications such as laundry compositions, for biopolishing of newly manufactured textiles, for providing an abraded look of cellulosic fabric or garment, and for treatment of paper pulp. Further, the invention relates to DNA constructs encoding such enzymes, a method for providing a gene encoding for such enzymes, a method of producing the enzymes, enzyme preparations containing such enzymes, and the use of these enzymes for a number of industrial applications.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. application Ser. No. 10/007,521 filed Dec. 10, 2001, which is a continuation of U.S. application Ser. No. 09/229,911 filed Jan. 13, 1999, now U.S. Pat. No. 6,387,690, which is a division of U.S. application Ser. No. 08/651,136 filed May 21, 1996, now U.S. Pat. No. 6,001,639, which is a continuation of international application no. PCT/DK96/00105 filed Mar. 18, 1996, which claims priority under 35 U.S.C. 119 of Danish application nos. 0272/95, 0885/95, 0886/95, 0887/95, 0888/95, and 0137/96 filed Mar. 17, 1995, Aug. 8, 1995, Aug. 8, 1995, Aug. 8, 1995, Aug. 8, 1995 and Feb. 12, 1996, respectively, the contents of which are fully incorporated herein by reference.

---------- KWIC ---------

Detail Description Paragraph - DETX (701):
[0729] Construction of Two Gene Fusions Between the Endoglucanase from Crinipellis scabella and the Linker/CBD Region of the 43 kDa Endoglucanase from Humicola insolens.

Detail Description Paragraph - DETX (702):
[0730] The native endoglucanase from Crinipellis scabella neither has a linker nor a cellulose binding domain (CBD). In addition, the full-length cDNA contains an ATG start codon upstream from the endoglucanase encoding open reading frame (ORF), presumably resulting in scrambled translation initiation upon heterologous expression of the cDNA, such as in the yeast Saccharomyces cerevisiae and the filamentous fungus Aspergillus oryzae. Thus, two gene fusions between the endoglucanase from Crinipellis scabella and the linker/CBD region of the 43 kD endoglucanase from Humicola insolens (disclosed in WO 91/17243) has been constructed using splicing by overlap extension (SOE)

(Horton et al, 1989).

Detail Description Paragraph - DETX (708):
[0736] The recombinant hybrid genes between the endoglucanase from Crinipellis scabella and the linker/CBD region of the 43 kD endoglucanase from Humicola insolens were generated by combining the overlapping PCR fragments from above (ca. 50 ng of each template) in two combinations in PCR buffer (10 mM Tris-HCl, pH 8.3, 50 mM KCl, 1.5 mM MgCl.sub.2, 0.01% gelatin; containing 200 micro-M each dNTP). The SOE reaction was carried out using the DNA thermal cycler (Landgraf, Germany) and 2.5 units of Taq polymerase (Perkin-Elmer, Cetus, USA). Two cycles of PCR were performed using a cycle profile of denaturation at 94.degree. C. for 1 min, annealing at 55.degree. C. for 2 min, and extension at 72.degree. C. for 3 min, the reaction was stopped, 250 pmol of each end-primer (forward no.15'-CCCCAAGCTTGACTTGGAACCAATGGTCCATCC-3' (SEQ ID NO: 98), forward no.2 5'-CCCCAAGCTTCCATCCAAACATGCTTAAAACGCTCG-3' (SEQ ID NO: 99), reverse primer 5'-GGGCGTGAATGTAAGCGTGACATA-3' (SEQ ID NO: 101)) was added to the reaction mixture, and an additional 30 cycles of PCR were performed using a cycle profile of denaturation at 94.degree. C. for 1 min, annealing at 55.degree. C. for 2 min, and extension at 72.degree. C. for 3 min.

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PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040185498 A1

TITLE: Novel cellulases, the genes encoding them and uses thereof

PUBLICATION-DATE: September 23, 2004

INVENTOR-INFORMATION:

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APPL-NO: 10/ 825378

DATE FILED: April 16, 2004

RELATED-US-APPL-DATA:

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parent-patent 6723549 US

child 08841636 19970430 US

parent continuation-of PCT/FI96/00550 19961017 US UNKNOWN

child 08841636 19970430 US

parent continuation-in-part-of 08732181 19961016 US ABANDONED

non-provisional-of-provisional 60005335 19951017 US

non-provisional-of-provisional 60007926 19951204 US

non-provisional-of-provisional 60020840 19960628 US

US-CL-CURRENT: 435/6, 435/209 , 435/320.1 , 435/325 , 435/69.1 , 536/23.2

ABSTRACT:

Genes encoding novel cellulases, and a gene encoding a protein that facilitates the action of such novel cellulases, the novel cellulases and a protein that facilitates the action of such cellulases, and enzyme preparations containing such proteins are described. The native hosts and the culture medium of said

hosts containing said novel cellulases are also disclosed. These proteins are especially useful in the textile and detergent industry and in pulp and paper industry.

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Detail Description Paragraph - DETX (282):

[0300] The 20K-cellulase of Melanocarpus albomyces appears to belong to family K of cellulases and family 45 of glycosyl hydrolases (Henrissat & Bairoch, Biochem. J. 293:781-788 (1993)). The 20K-cellulase shows homology (about 76% identify in 235 amino acid overlap) towards the **Humicola insolens** endoglucanase V (embl:a23635), but the 20K-cellulase has the surprising feature that it does not harbor the **cellulose binding domain (CBD)** and its linker, which are characteristic of the **Humicola insolens** endoglucanase V and other related endoglucanases (Schulein et al., 1993, In: Suominen & Reinikainen (eds), Foundation for Biotechnical and Industrial Fermentation Research, Helsinki, vol. 8, 109.; Saloheimo et al., 1994, Mol. Microbiol. 13, 219). This feature of the 20K-cellulase may account for the excellent performance of the enzyme in biostoning experiments (Example 10).

US-PAT-NO: 6855531

DOCUMENT-IDENTIFIER: US 6855531 B2

TITLE: Endoglucanases

DATE-ISSUED: February 15, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Kauppinen; Markus Sakari				

APPL-NO: 10/ 007521

DATE FILED: December 10, 2001

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of application Ser. No. 09/229,911 filed Jan. 13, 1999, now U.S. Pat. No. 6,387,690, which is a divisional of application Ser. No. 08/651,136 filed May 21, 1996, now U.S. Pat. No. 6,001,639 which is a continuation of PCT/DK96/00105 filed Mar. 18, 1996, and claims priority under 35 U.S.C. 119 of Danish application Nos. 0272/95, 0888/95, 0887/95, 0886/95, 0885/95 and 0137/96 filed on Mar. 17, 1995, Aug. 8, 1995, Aug. 8, 1995, Aug. 8, 1995, Aug. 8, 1995, and Feb. 12, 1996, respectively,

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DK	0272/95	March 17, 1995
DK	0885/95	August 8, 1995
DK	0886/95	August 8, 1995
DK	0887/95	August 8, 1995
DK	0888/95	August 8, 1995
DK	0137/96	February 12, 1996

US-CL-CURRENT: 435/209, 435/263 , 435/264 , 510/320 , 510/321 , 536/23.2

ABSTRACT:

The present invention relates to enzyme preparations consisting essentially of an enzyme which has cellulytic activity and comprises a first amino acid sequence having the following sequence

(SEQ ID NO:79) Thr Arg Xaa Xaa Asp Cys Cys Xaa Xaa 1 2 3 4 5 6 7 8 9 Xaa Cys Xaa Trp Xaa 10 11 12 13 14

and a second amino acid sequence having the following sequence

Trp Cys Cys Xaa Cys (SEQ ID NO:80) 1 2 3 4 5

wherein, at position 3 of the first sequence, the amino acid is Trp, Tyr or Phe; at position 4 of the first sequence, the amino acid is Trp, Tyr or Phe; at position 8 of the first sequence, the amino acid is Arg, Lys or His; at positions 9, 10, 12 and 14, respectively, of the first sequence, and at position 4 of the second sequence, the amino acid is any of the 20 naturally occurring amino acid residues with the provisos that, in the first amino acid sequence, (i) when the amino residue at position 12 is Ser, then the amino acid residue at position 14 is not Ser, and (ii) when the amino residue at position 12 is Gly, then the amino acid residue at position 14 is not Ala, performs very good in industrial applications such as laundry compositions, for biopolishing of newly manufactured textiles, for providing an abraded look of cellulosic fabric or garment, and for treatment of paper pulp. Further, the invention relates to DNA constructs encoding such enzymes, a method for providing a gene encoding for such enzymes, a method of producing the enzymes, enzyme preparations containing such enzymes, and the use of these enzymes for a number of industrial applications.

20 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

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Detailed Description Text - DETX (507):
Construction of Two Gene Fusions Between the Endoglucanase from Crinipellis scabella and the Linker/CBD Region of the 43 kDa Endoglucanase from Humicola insolens

Detailed Description Text - DETX (508):
The native endoglucanase from Crinipellis scabella neither has a linker nor a cellulose binding domain (CBD). In addition, the full-length cDNA contains an ATG start codon upstream from the endoglucanase encoding open reading frame (ORF), presumably resulting in scrambled translation initiation upon heterologous expression of the cDNA, such as in the yeast Saccharomyces cerevisiae and the filamentous fungus Aspergillus oryzae. Thus, two gene fusions between the endoglucanase from Crinipellis scabella and the linker/CBD region of the 43 kD endoglucanase from Humicola insolens (disclosed in WO 91/17243) has been constructed using splicing by overlap extension (SOE) (Horton et al, 1989).

Detailed Description Text - DETX (515):
The recombinant hybrid genes between the endoglucanase from Crinipellis scabella and the linker/CBD region of the 43 kD endoglucanase from Humicola insolens were generated by combining the overlapping PCR fragments from above (ca. 50 ng of each template) in two combinations in PCR buffer (10 mM Tris-HCl, pH 8.3, 50 mM KCl, 1.5 mM MgCl.sub.2, 0.01% gelatin; containing 200 .mu.M each dNTP). The SOE reaction was carried out using the DNA thermal cycler (Landgraf, Germany) and 2.5 units of Taq polymerase (Perkin-Elmer, Cetus, USA). Two cycles of PCR were performed using a cycle profile of denaturation at 94.degree. C. for 1 min, annealing at 55.degree. C. for 2 min, and extension at 72.quadrature. C. for 3 min, the reaction was stopped, 250 pmol of each end-primer